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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/055,747	01/23/2002	Lixiao Wang	S63.2-10062	7360

490 7590 06/24/2003

VIDAS, ARRETT & STEINKRAUS, P.A.  
6109 BLUE CIRCLE DRIVE  
SUITE 2000  
MINNETONKA, MN 55343-9185

EXAMINER

NOLAN, SANDRA M

ART UNIT PAPER NUMBER

1772

DATE MAILED: 06/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Applicati n N .

10/055,747

Applicant(s)

WANG ET AL.

Examiner

Sandra M. Nolan

Art Unit

1772

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) \_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: .

## DETAILED ACTION

### *Claims*

1. Claims 1-32 are pending.

### *Information Disclosure Statement*

2. The information disclosure statement (IDS) submitted on 17 April 2002 (Paper No. 2) was considered by the examiner.

### *Comment re: Rejections*

3. The examiner has treated the article and process claims of this application as a group in view of applicants' admission, at page 2, lines 7-11 of the specification, that the physical steps used in making their balloon catheters are known.

### *Claim Rejections - 35 USC § 112*

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 14 and 28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

What does "modified polyamide" mean?

Please clarify the claims.

### *Claim Rejections - 35 USC § 103*

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

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the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claims 1-3, 5-9, 15-19, 21-23, 27, and 29-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson et al (US 5,500,180) in view of Loontjens et al (US 6,228,980; hereafter "Loontjens I") or Zahr (US 6,504,004).

Anderson teaches balloon catheters made from polyamides (col. 8, line 25). It teaches that useful matrices are those in which molecules are stretchable or coilable under stress but contain interactive zones that cause them to return to their original positions when stresses are removed from them (col. 7, lines 48-59).

It fails to teach bis-lactams.

Loontjens I and Zahr both teach the use of bis-lactams to link polyamide chains to increase viscosity, see Loontjens I at col. 2, lines 12-17 and Zahr's abstract. Also, Loontjens I teaches that polyamides and bis-lactams can be melt mixed (abstract).

The patents are analogous because they all deal with polyamide moldings.

It would have been obvious to one having ordinary skill in the art at the time that the invention was made to employ the bis-lactams of Loontjens I or Zahr as means to

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interact portions of the polyamides of Anderson and to use the resultant polyamides to make balloon catheters.

The motivation to employ the bis-lactams of Loontjens I or Zahr to react with the polyamides of Anderson is found at col. 2, lines 12-17 of Loontjens I and in the Zahr abstract, where increases in their polyamides' viscosities are taught.

It is deemed desirable to increase viscosity while producing interactive zones in polyamides from which catheters are made in order to make the polyamides easier to handle in the extrusion step of the catheter production process.

9. Claims 10-13 and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson in view of Loontjens et al (WO 96/34909, hereafter "Loontjens II").

Anderson is discussed above.

It fails to teach bis-oxazolines.

Loontjens II teaches, in its abstract, melt mixing bisoxazolines with polyamides to increase melt viscosity.

The references are analogous because both deal with polyamide moldings.

It would have been obvious to one having ordinary skill in the art at the time that the invention was made to employ the bis-oxazolines of Loontjens II as means to interact portions of the polyamides of Anderson and to use the resultant polyamides to make balloon catheters.

The motivation to employ the bis-oxazolines of Loontjens II to react with the polyamides of Anderson is found in the abstract of Loontjens II, where an increase in polyamide viscosity is taught.

It is deemed desirable to increase viscosity while producing interactive zones in polyamides from which catheters are made in order to make the polyamides easier to handle in the extrusion step of the catheter production process.

10. Claims 4 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson and Loontjens II as applied to claims 10-13 and 24-26 above, and further in view of Chen (US 5,554,120).

Anderson and Loontjens II are discussed above.

They fail to teach polyolefins additives in molding compositions for catheters.

Chen teaches, in its abstract, that polyamides and polyolefins can be blended to give catheter compositions that have enhanced burst pressures.

The references are analogous because they all deal with polyamide moldings.

It would have been obvious to one having ordinary skill in the art at the time that the invention was made to employ the blends of Chen in the compositions suggested by the combination of Anderson with Loontjens II in order to produce catheters having enhanced burst pressures.

The motivation to employ the blends of Chen in the compositions suggested by the combination of Anderson with Loontjens II is found in the Chen abstract, where enhanced burst pressures in catheters are taught.

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**Conclusion**

Any inquiry concerning this communication should be directed to the Examiner, Sandra M. Nolan, whose telephone number is 703/308-9545. The Examiner can normally be reached on Monday through Thursday, from 6:30 am to 4:00 pm, Eastern Time.

If attempts to reach the Examiner by telephone are unsuccessful, her supervisor, Harold Pyon, can be reached at 703/308-4251. The general fax number for the art unit is 703/305-5436. The fax number for after final communications is 703/872-9310. The receptionist answers 703/308-0661.



S. M. Nolan  
Patent Examiner  
Technology Center 1700

SMN/smn  
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20 June 2003